

AVIATION WEEK

SEPT. 13, 1948

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AVIATION WEEK

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NEWS DIGEST

DOMESTIC

Boeing Airplane Co. has received a CAA Type Certificate for its 50-passenger Stratocruiser after a 14-month test program with fleets of the 345-cup, jetliner, since initiation of a federal testing for CAA.

Air Force has ended, after two years, its experimental all-weather shuttle between Wilmington, Ohio, and Andrews Field, Md. Facilities will be used for other research. Shuttle operated five days a week with 100 percent safety record.

Duane-Turley H. Boone, 61, who retired two years ago as director of information for Air Transport Association, died at New York. Long a newspaper man, Boone was first public relations chief for the New York World's Five from 1916 to 1919. Capt. William A. Wharton, 51, Pan American Airways pilot with more than 3 million miles at the controls as a crew member, died at Coral Gables, Fla.

Frank Goodale, 61, who shared New Yorkers with ending exhibition at an amusement park 1909-1916, died at St. Petersburg, Fla. Goodale's "stunt" included the first official parachute jump in the U. S. Army at Fort Ord, Calif., in 1917.

FINANCIAL

Lockheed Aircraft Corp. reports net profit of \$5,813,351 (\$4.91 per share) for the first half of 1948, compared with net loss of \$4,896,094 for the corresponding period in 1947. Gross sales for the first half of this year \$53,981,053.

Bell Aircraft Corp. reported net loss of \$203,690 for the first six months of 1948. Loss in the corresponding period last year was \$210,934. Cost of \$699,779 from sale of the company's five airplanes, V-1, plus partly offset against net loss of \$185,475 on sales totaling \$6,164,347 in the first half of this year.

FOREIGN

Britain's air and naval forces will participate in three-day exercises in the English Channel starting Sept. 23. British-based USAF B-29s took part in a four-day RAF exercise ended last week.

Philippine Air Lines has contracted with United to provide aircraft, aviation fuel service, and ground facilities at CAA's maintenance base at San Francisco's International Terminal. Since the agreement between the two airlines is now in effect at Honolulu. Services at PAL's two east-Pacific stops.

INDUSTRY OBSERVER

Watch for the Air Force to make another world speed record attempt soon. Notified by losing failures in the heavily tested Cleveland speed course that prevented official certification on the 603.75 mph, performance by the North American F-86A, the Air Force now intends to make its next attempt at Mexico, D.F., where both the F-80R and the F-86A, made their world record runs. Maj. Dick Johnson, F-86A pilot during the Cleveland runs, told Aviation Week that he definitely held the plane back during its 660 mph performance, partly because of increasing turbulence. With high temperatures on the Mexico desert and no assistance as the throttle the F-86A should hit 700 mph without difficulty.

Present version of the Thompson Trophy Race may be on its way out. The large crop of national failures in the 1948 Thompson plus the increasing expense of outfitting war surplus fighter planes at recent has set an race planners to thinking about rebuilding the Thompson race around a 450 hp engine and new designs that could be built in about \$5000.

Cook Global spent \$30,000 equipping his two Goodyear F2G Corsairs for the 1948 Thompson and their subsequent runs in the race just about equal set ever publicly known in 1947 Thompson victory. Success of the Goodyear lightplane race both with racing pilots and the public is forcing air race management to move thoughts into that line.

Increasing military use of GCA, radar precision landing system, is seen in the sale of 10 USAF GCA sets to the Royal Canadian Air Force and two over to Turkey under the U. S. foreign military aid program. These surface fireman sets are being modified for two-man operation by Collins Radio of Los Angeles, largest manufacturer of GCA. USAF is now getting delivery to use, an interceptable GCA equipment that can be operated by a single controller.

Don't expect the BEX-2, overhaulk stainless steel, superoxide aircraft plane to be ready for flight very soon. One of the big troubles is the Wright Anzani-Capri 4-cylinder engine, scheduled for use in the X-2. Some observers believe this rocket engine will not be ready for another 18 months.

Experimenters with remote control equipment on jet planes has indicated that the Lockheed F-80 can be flown electronically up to 45,000 ft with everything including landing and take-off controlled by a pilot on the F-80.

Engineers at the General Electric J-47 engine will not entirely replace the Allison J-35 nor that development work as the latter has ended is seen in the J-35-17 engine now in production, which develops 4900 lb thrust dry and approaches 6000 lb thrust with water injection. The new engine is being installed in the Republic F-84D and F-84E fighters.

Third prototype Chanceaux NF-104 Panther Navy jet fighter has been completed and flight tests are under way. The No. 3 airplane is powered by an Allison J-35 engine, instead of the imported Rolls-Royce Neos turbine engine powering the first two versions. Flight tests have indicated, almost identical performance of the new plane with the other two listed, indicating success for the interchangeability feature between the two engines at no expense of performance.

Robert Edward Fulton expects to go into small scale production on his Aerophib in soon as he gets CAA approval for the experimental model which he submitted at the National Air Races. CAA is expected to give him the nod within 90 days.

Engineering and Research Corp. of Riverside, Md., has been giving considerable interest from the field in possible production of a twin-engine fighter with two fuselages and two engines side-by-side. The project is being handled by George Thrasher at the National Air Races. Dealer and customer reactions is based on a selling price of \$1800 in contrast to \$1699 for the single-engine and a speed of about 145 mph, approximately 30 mph faster than a conventional model.



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10 AVIATION WEEK, September 13, 1948

One Waves; One Wins; One Loses



Navy Commander E. F. Asmus went from the cockpit of his one-of-a-kind F-11 open biplane of the day before the grandstand at the National Air Races. F-11 biplane (second right) from inside the No. 4 team which won the Can-Am event, Schenck had the field all the way and was never seriously challenged throughout the event. Below, Charles E. Brown, backseat pilot of the Thompson race, is shown with some of his race officials after he qualified for the Thompson event with the highest time, 415.580 m.p.h. Millionaire forced him out in the 19th lap after he had been well out in front of the pack. Bill Ecker's F-11 which won the biplane event, is shown top right. The craft originally belonged to Howard C. Lilly, NACA test pilot who was killed early in the year when the crash-holding Douglas Skunked crashed in tail oil. It was purchased by Kenneth A. Hoffer, Ecker's sponsor.



AVIATION WEEK, September 13, 1948

HEADLINE NEWS 11



At The National Air Races

Thompson Race Winner Anne Johnson, as Air Force pilot, is shown running her trophy from Boston Turner (right), the only pilot to have won the event since then. Turner took first honors in 1934, 1935 and 1939. Jacqueline Cochran, third place winner in the Bendix event (right), also didn't get off to compete at all. For more about this year's Bendix, page 46. Below, Paul Mantz (right) is shown with William Moss and Miles and Ferguson, Bendix trophy winners, on the winner's stand after winning the 1960 Bendix event for the third consecutive time. Bendix trophies for the winners are shown in the foreground. Mantz was sponsored by Glenn McCarthy, Houston, Tex., businessman, who also had two other entries in the Bendix event, both of which finished in the money. Mantz has his flying career in Hollywood, Calif., and owns one of the largest private air fleets in the world. He looked miserable, in mood, when he landed at Cleveland after his more than four hour flight in McCarthy's P-51.



The Air Races

Thompson Trophy goes to Johnson; Paul Mantz repeats in Bendix race.

By Stanley L. Colbert

Cleveland—it was 'every one a winner' in the 19th running of the Thompson Trophy Race when all but three of the 10 contestants dropped out, and Anne Lynn Johnson, an Air Force pilot who was seated fourth in earlier qualifying runs, drew her converted P-51 at a mild 153,703 mph to win the \$65,000 first prize money.

The Labor Day crowd of about 80,000 thought the race almost decided after the second lap, when Charles E. Brown, flying a P-50 Mustang, made Thompson race history by taking the course at 413,234 mph. Brown came around his pace for 18 grueling laps and was far in front of the field when he developed trouble on the 18th lap, general fatigue, and pulled down to make a dead rich landing.

► **Closed Out Early**—Cook Cliland, winner of last year's Thompson, together with his guide mate Dick Backus went early withdrawal in the National Air Races speed classic. Backus was the first to drop out, in the third lap, and Cliland followed in the fifth.

Johnson, the 28-year-old Mustang Springs, Fla., winner, took over second position on the 18th lap and held it until Brown pulled out on the 19th lap. ► **Raymond Taken Second**—Don E. Raymond, Hammond, Indiana, took second place, averaging 363,254 mph for the 28 laps of the 15-mile closed-circuit course.

William V. Newhall, competing in his 19th National Air Race, finished in third position, after previously being lapped twice by Brown. Newhall averaged 331,567 mph to win the \$4500 fixed prize purse.

Johnson's speed was below the 365,115 mph recorded last year by Cook Cliland in his Pratt and Whitney-powered 1080 hp. Vought Corsair.

► **Brown Early Favorite**—Mort of the crowd had picked Brown to win the Thompson classic on the basis of his qualifying time—415,500 mph—which placed him in the No. 1 position, and the fact that his race aircraft was selected to first place in 1964 Thompson event, and third place by Jay Derringer, in last year's race.

► **Other Races**—Paul Mantz, 45-year-old two-time winner of the Bendix Trophy Race, repeated his performance this year by completing the 300-mile course in little more than 4½ hr. His speed of 447,660 mph. was less than last year

Bendix Trophy Race "B"-Division*				
Place	Pilot	Lapged Time	Mph. speed	
1	Paul Mantz	6:43.49	447,660	
2	Raymond	7:14.73	405,317	
3	Jacqueline Cochran	4:55.37	443,847	
4	T. J. Lusk	7:14.73	405,317	
5	T. J. Lusk	7:14.73	405,317	
* All pilots flying P-51s. Joe Bellomo, other entrant, did not arrive before 7:30 pm (deadline)				
Thompson Trophy Race				
Place	Pilot	Time	Lapged Time	Mph. speed
1	Anne Johnson	P-51	10:07.49	363,254
2	R. E. Raymond	P-51	12:21.99	363,254
3	W. V. Newhall	P-51	10:07.15	318,229
Sohio Handicap				
Place	Pilot	Type Plane	Mph. speed	
1	R. E. Raymond	P-51	328,229	
2	T. J. Lusk	P-51	327,811	
3	C. E. Walling Jr.	P-51	326,877	
4	R. E. Raymond	P-51	325,333	

when he finished the Van Nuys, Calif.-Cleveland, Ohio run at 602,423 mph. Mantz, who previously took the 1966 and 1967 Bendix event, flew a North American P-51 Mustang, sponsored by Glenn McCarthy, the Houston aviator entrepreneur.

Glenn McCarthy's stable did stall around Laura Carney, Houston, Tex., McCarthy's chief pilot in January, 1966. Backus' second, little more than one minute behind Mantz. It was his first Bendix race. Ed Lusk, Cincinnati, Ohio, the other McCarthy entry, finished fourth, four minutes behind Mantz. He averaged 441,594 mph.

Third place in the improved engine division of the Bendix race went to the only woman entry, Jacqueline Cochran, who won the event in 1958. Miss Cochran had attempted to continue to New York and attempt to break the transcontinental cross-country record but changed her mind and landed at Cleveland.

► **Jack Sweig-Mantz's** first place pace of \$18,000, together with Carney's \$5000 purse and Lusk's \$2500, totaled an \$18,000 sweep for the McCarthy stable. Miss Cochran's third place prize was \$4000. This year the course was moved from Van Nuys Air port to Long Beach, Calif.

Nantz's record in the yet division of the Bendix race was impressive this last year's mark by the Air Force in Lockheed F-80s.

Flying a North American P-51, Ed Lusk R. E. Raymond averaged 405,325 mph., completing the course 8 ½ hr. 10 min. In 1947, Ed Lusk W. V. Newhall piloted an F-80 307,355 mph, finishing in 4 hr. 2 min.

Cosmoeder F. P. Arnold, in another Allison T-61B powered F-1, took second honors, at 363,254 mph. Edna Brown, Arsenal, was followed two minutes later by Lt. R. R. Hawks

Two Navy pilots did not finish the race. Lt. Col. R. M. Elder, with a forced landing at Cleveland, did not cross the finish line in flight. Lt. A. T. Caporali was forced down in Chicago.

Mechanical Failures During Race Analyzed

Evidence of trouble in the much-debated twenty-year-old argument that "the sun impeded the field" was again in the mechanical failures that forced seven out of ten starters out of the 1943 Thompson Trophy Race.

Both of the Goodyear F2G-4 Corsairs were forced out in the early laps due to failure of the carburetor as it took short stop the cowling. The loose cowling, rather than which few loose, destroyed sun glasses and contributed a hazard to the pilot but he elected to remain in the race.

► **Impeller Failure**—Other participants were down due to an impeller failure, an oil cooler failure and mechanical oil leaks. Oil cooler mechanical difficulty was experienced by Glenn Brown, who led 25 laps of the race in his Bell P-58Q American racer. The engine suddenly started to lose power, which contained well actually all power was lost and Brown was forced to emergency landing on the 56th Subsequent inspection revealed that the fuelage was cracked off of the exhaust stack permitting exhaust fuel to enter and rattle on a hot

► **Fuel Expenditure**—Brown and his crew developed the theory that the heat had caused, vaporized the fuel in the fuel tanks shutting off the flow to the carburetor. This theory was supported by the fact that none of Brown's crew indicated anything abnormal at the time of the power loss.

LETTERS

Skycoach Service Defended

To the Editor:

Your editorial Aug. 9 ("The Industry Looks At Vues") has stirred up quite a bit of controversy from the numerous small airlines. My appreciation for the clever insight and most interesting statement at the plight of the passenger air transport industry I have read.

Your editorial explains accurately and precisely what is so much talked about (and much less accurately) between them after decades of bitter dissent due just two years and what we have been trying to do the CAA. Very little criticism of the industry comes from the airlines. The knowledge that a few hundred million passengers is a very large number.

There are very few in the industry whose occupation is sufficiently hard to do the job, but what we have been trying to do again, aviation in the next few years. Of 145 million people in the U.S. only about 10 percent can afford the luxury of the added cost of air travel. The average person, and they make up 90 percent of the people in the country, cannot afford \$150 to go across country and back or \$180 on an extra day plane. With the proposed new rate, the fare will be \$151 and \$190 each way. We have found that these rates will spend about \$20 more than it costs here and there they will see that amount in the long run to going by car, but not count about it will not pay the difference up to the rate of the scheduled fare to go by air.

With a much rate and the other 110 million having independently to go by land, aviation could go the opposite direction during the next few years. If the scheduled fare has been raised, too many have to travel will still be a luxury to the masses.

I am taking the liberty of enclosing a summary of 441 questionnaires from our passengers which show much light on the matter of direction which you are able to read in your editorial. These were tabulated by Transportation Owners Machine Service, Washington, D.C.

The letter which accompanied the tabulations follows.

"Our Passenger Standard Airlines Service is low cost and transportation without some of the bills that require airline cost without contributing anything to air transportation itself. We believe that air transportation should continue to be made available to the average citizen who wants to reach his destination quickly but at a cost not out of his reach. We believe that the low cost air transportation should be offered on a regularly scheduled basis part a higher cost service is now offered by the scheduled airlines.

"To enable us to furnish regularly scheduled low-cost service, we need your help. We would like to continue our present, though at present, agency, the Civil Aeronautics Board, that can be

many people in the country who have been stranded and who want to continue to use the low-cost service. We want to make that low-cost service a scheduled service so you will have the added advantage of regularly scheduled flights.

"We have attached a questionnaire which we would like you to fill out. Naturally, we should prefer if it were signed by you and indicated your address. However, if you do not care to do so, simply send your name and address.

As a basis of comparison, we set out below the different transportation line position here. They are listed in order of time involved in travel and of the additional expense which accumulates, such as meals on board, tips, insurance service not from the report, etc.

Between L.A. and New York
Railroad \$ 79.37
Scheduled low-cost Airline 113.85
Scheduled Airline 159.56
Scheduled Airline 164.51*
Extra fare scheduled Airline 161.52**

*This was assumed to be the airline Sept. 1 to Sept. 15—Editor's Note.

**This was assumed Sept. 1 to Sept. 15 to TWA and UAL, while American is served its make fare actually, making its rate \$177.75 for all airlines—Editor's Note.

"Thank you for helping us to prove that there are many people who appreciate the need for scheduled low-cost air service, air transportation within the reach of the vast majority of the population."

QUESTIONNAIRE RETURNS

1. If Standard Airline low-cost air service had not been available, how would you have traveled? Rate 45, low fare, 44, scheduled airline 354, would not have gone 52.

2. How do you travel to the airport where you board the plane? Most scheduled the plane 41, low fare, 44, scheduled airline 354, would not have gone 52.

3. How do you travel to the airport where you board the plane? Most scheduled the plane 41, low fare, 44, scheduled airline 354, would not have gone 52.

4. In the past, did you fly on a commercial airline? Yes 124, no 419, no response 1.

5. How many times during the past year have you traveled on scheduled commercial airlines? None 221, once 61, twice 61, three times 19, four times 34, five times 6, six times 4, seven times 1, eight times 2, nine times 1, ten times 4, twelve times 3, 23 times 1, no response 47.

6. What mode of transportation have you used frequently to traveling long distances in the past year? None 229, low fare, and 141, airline 146, no response 31.

7. If you have, please state your or your husband's occupation. Most tabulated.

8. Do you have any transportation which would make air travel by Standard Airlines more desirable? Not tabulated.

9. Standard Air Lines
Long Beach, Calif.

To the Editor:

It was a pleasure to read your editorial Aug. 9. It reflects the needs of the Air

Coach Association perfectly. We know, you know and the Civil Aeronautics Board should know that no transportation industry, mode or otherwise, can exist successfully unless it has volume.

You should be highly complimented on the editorial technique you have displayed in publishing your editorial, as no one knows better than I the low-cost person, publicist and otherwise, that can be brought to bear by the interests controlling the scheduled airlines.

I read with interest in article in the Aug. 17 Los Angeles Examiner discussing the financial plight of the scheduled airlines and particularly that of United. The article quotes Mr. W. A. Furber as saying that an increase in rates will come later if any effect on passenger volume and that the scheduled lines should not attempt to obtain more air transportation, but continue to offer lump air transportation and only to them who can afford it.

Also, the passenger increasing mail pay from a present \$47 per ton mile to from \$32 to \$11 per ton mile so as to allow a 16 percent profit on scheduled transportation efforts, put them in a cost-plus basis.

This can't be the American way of fair enterprise. Why should anyone be forced to pay subsidies to a service that only a relatively few members of the public can afford?

We strongly hope for CAB will not need for more in its way and develop its route to encompass an aviation industry serving the needs of the American traveling public.

Stanford D. Weiss, President
Air Coach Association
c/o Standard Airlines, Inc.
Long Beach, Calif.

To the Editor:

We have with pleasure and interest read your editorial. We would like to have permission to reprint it.

Jack F. Newman
McClellan Airways, Inc.
Annapolis, Alaska

Reversible Russianize

To the Editor:

While praising your editorial exposure, June 7 issue, my attention was drawn by the photo on page 12 showing partial view of the pilot cockpit of the Boeing B-15.

It appears all flight instruments are on the right side, and all control instruments on the left side.

It was in this past negative view and, naturally, reversed. If not, then the pilot is on the right-hand seat.

Warren J. Moskowitz
Moskowitz, Va.

(Explains Moskowitz is right. The New York office of Soviet says the pilot sits in the left seat. We are sure it is more than an accident in the present a sign but no position was unusual—Ed. Note)

A GREAT NEW AVIATION SPARK PLUG



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- Twin Wasp D (R-2000)
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- Wasp Major (R-4360)

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Neither expense nor ingenuity has been spared to give this new AC aviation reliability. It's the biggest news in aviation spark plugs—and it's available now.



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ENGINEERING & PRODUCTION

West Coast Earnings Pick Up

Aircraft industry shows signs of newly regained prosperity following lean postwar period.

After bumping along on soft bottom for a good many previous months, West Coast aircraft are beginning to show evidence of having experienced considerable financial gain.

Consistent with an announcement that 14,800 employees (members of United Auto Workers-CIO) had accepted a 3% cost wage boost ally, North American has notified stockholders that they'll receive a 30-cent dividend Sept. 29—first paid since summer of a 51-cent dividend, 1988, 1989.

► **Sales Up**—Pryor Aeronautical reports sales valued at \$1,800,752 for the quarter ended July 31. The same quarter a year ago ran up a sales total of \$1,461,109.

In Los Angeles Superior Court a stockholder's profits recovery suit of a type unknown since except when the companies are showing good earnings is solved. J. C. Garret Corp. and Drug Inc. Aircraft Co.

► Double Accounting.—Kenneth H. Findler, identified as a Douglas stockholder for last month's meeting, also demands an accounting of Garritt earnings as an associate's firm and reimbursement to Douglas of all profits made on sales to Douglas. But for the rest is Findler's claim that when Garritt created his company, he was a Douglas employee and that the Douglas company thus is parent to the Garritt organization and entitled to share in Garritt profits.

But the strongest display of improved prospects comes from Lockheed as a financial report backed up by a showing that since June 10 last year the company has reduced bank obligations from \$48,200,000 to slightly more than \$5,000,000.

Also, during the half year ended June 30, Lockwood turned a neat net profit of \$2,512,000 on gross sales of \$85,641,000.

► **"Best Customers"**—Lockhead's backlog now is just under \$200,000,000. Of this, 5 percent is involved in commercial orders; the balance is composed of contracts with the Navy and the Air Force.

Probably no company in the country has established a better balance between its orders from the Navy and Air Force, the two "best customers" among

net Backlog Spans show Lockheed holding future delivery Navy contracts amounting to \$78,615,000 as compared with an Air Force backlog of 338,544,000.

Company Executive Changes Announced

The return to Republic Aviation Corp. of D. K. Tucker, copartner and director of F-47 field service for the company during World War II, was announced recently. Tucker will serve in contrast to President Mundy I. Fazio, contacting facilities where the public component is being used or developed. He had been away from the Farmingdale, L. I., company since May, 1946 when he left after four and a half years of service to manage his firm in New Hampshire.



Also of industry interest was the election of Russ Adam Ellye W. Stone (USNR) as president of Federal Telephony and Radio Corp., New York.

Wine and Assoc Corp., New York, Latin for its work in wireless electronics. Stone was elected president and Geo. William H. Harrison chairman of the board of the corporation and its sister subsidiary, International Standard Electric Corp. Fred T. Caldwell, former president of the two firms, became vice chairman of the boards of both.

* In other personnel actions

Asahi Chemical Co., Marietta, Wis., has derived P-2 from physical intermixing Harvey Y. Wiley saw dustlings of the brand Olive oilseed. E. C. 1960 the president W. C. Wiley secretary J. F. Asahi treasurer and E. J. Thompson, controller and assistant treasurer.

U.S. Manufacturing Corp., New York appointed George W. Ledbetter director in charge for the West Coast chapter of the engineering organization on Long Beach and Anaheim. His office will be at 10225 Woodside St., Van Nuys, Calif.

Aircraft Engineer and Farm Egg, New York City, named Harvey H. Dwight as "Big Paul" because he presided and vice president respectively. The former president Ernest Butler, has retired from active service.

Fluoride Holdings Corp.—appointed **Conrad G. Currell** director of inspection. He was previously associated with **Chas. Albers Co.** and **Feldt Co.** **Harold F. A. Reesman** has been named personnel director.

Wesleyan University, Middletown, Conn. 06455. He is currently on leave from his position as professor of chemistry at Wesleyan University, Middletown, Conn. 06455. He is currently on leave from his position as professor of chemistry at Wesleyan University, Middletown, Conn. 06455.

Robert G. Brown, G. Mark manager of the Seattle division of the engineering services and government systems defense firm, (New York 00000) and Gerald A. Fyfe, chief (New York 00000) were appointed sales representatives.

Western Electric Co., Schenectady, N. Y., named Kenneth F. Roussier, Claude T. Anser and Paul Nichols as plant manager, electrical and production manager, respectively, for the plant at 1000 Automobile Way, West of Lockport, Ohio.

Source: *Washington Post*, Anne Hill, personal W. H. Hines to general manager, reducing A. H. Toney, who retains his position. E. P. Hanks was made manager of engineering and manufacturing.

United Reports Net Income Rise

United Aircraft Corp. has reported net income of \$5,985,731, after federal income taxes, for the six months ended June 18, 1948. This is the equivalent of \$1.90 per share on common stock, and compares with \$1.416,873, or \$1.04 per share of common, for the corresponding period last year.

First-quarter earnings this year were \$1,248,730. In the second quarter, increased costs were incurred, mainly in tooling for new models, and earnings for that period were \$2,495,581. Sales for the first quarter were \$54,920,585.

The corporation reported contracts, orders and government letters of intent amounting to about \$245,000,000 as of June 30. The comparable figure May 31 was \$240,000,000.

• **Predictions**—Chairman Frederick B. Rustichin and President H. Mansfield Himes predicted that operations in the last six months of the year will be "more or less" affected by costs incident to getting new models of equipment.

to getting new models into production and a tighter level of discipline in accordance with customers' schedules. Annual plant shut-down for inventory and vacation will affect third-quarter

Before June 30, 1948, the last \$30,000,000 of \$15,000,000 borrowed under a three-year line of credit arranged in June, 1947, with five banks had been paid, and the entire \$25,000,000 general credit remains available.

Aircraft Industry: Mid-year, 1948

Production Progress Report

AIRCRAFT Month	Percent Type		Percent Type		Percent Type	
	1947	1948	1947	1948	1947	1948
January	40	40	40	40	40	40
February	40	40	40	40	40	40
March	40	40	40	40	40	40
April	40	40	40	40	40	40
May	40	40	40	40	40	40
June	40	40	40	40	40	40
Total	240	240	240	240	240	240

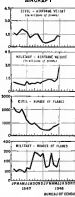
* Does not include value of military shipments but includes aircraft parts and accessories.
 ** Includes parts and accessories.
 *** Does not include value of military shipments but includes aircraft parts and accessories.
 Figures based on "Facts for Industry," Bureau of the Census.

PERSONAL AIRCRAFT

Company	July		July	
	1947	1948	1947	1948
Boeing	10	10	10	10
Cessna	10	10	10	10
Continental	10	10	10	10
Garrett & Brown	10	10	10	10
Grumman	10	10	10	10
Heath	10	10	10	10
Howard	10	10	10	10
Northrup	10	10	10	10
Rockwell	10	10	10	10
Stearns	10	10	10	10
Wright	10	10	10	10
Total	100	100	100	100

Figures as reported to Aircraft Production Association.

SHIPMENTS OF COMPLETE AIRCRAFT



the fact that in June orders under the delayed military appropriations could not have influenced deliveries. One indication that might be seen in the advance is a rising rate of heavy bomber shipments, although the "Production Progress Report" also indicates a considerable increase in the number of military planes.

The clerical party will call the tone on the type of business that will be done this year. Transport shipments slipped in June, as indicated on the civil aircraft weight chart above, although number of civil planes delivered rose. The increase was due to general aircraft shipments.

This, however, was a temporary condition, as shown in the personal aircraft production chart at left. The chart, based on later figures (last July) of the Aircraft Industries Association, shows the curve once again starting downward, although the gap between the high-point first-place plane and two-place planes is narrowing.



Here, student demonstrates a compressor wheel at General Electric's Aircraft Gas Turbine Training school. Dubbed "Hot Air" by visiting RAF personnel—where they saw the test pit's 14-inch concrete walls and steel doors—the school has, to date, "graduated" more than 350 CAA and Wright Field personnel. It will probably run for two more years to teach the function, operation, and servicing of jet engines to military personnel and others.

Five courses are conducted—ranging from three weeks to three days—on all phases of jet-engine operation. Pupils attend lectures and disassemble, tear the factory, run engines, tear them apart, and rebuild them. As new developments come along, these are incorporated in the course. Pupils are assured of receiving the most practical training for their phase of gas-turbine operation available anywhere in the country today.

You, too, can be assured of experienced help whenever you contact a G E aircraft equipment specialist. We are constantly developing and sustaining all types of electrical equipment for plants—from robot and control to instruments, lamps, and specialized lightweight systems. The nearest G E office will gladly put you in touch with our application engineers. Aviation Division, Apparatus Dept., General Electric Company, Schenectady 5, N. Y.



PRECISION PRODUCTS
AND
ENGINEERED SYSTEMS
FOR AIRCRAFT

GENERAL ELECTRIC

Military Business Boosting Production

Increased military procurement already has begun to produce its effect on the civilian manufacturing industry in June, according to the tables and

figures of the Census Bureau. Most significant feature of the charts above is the sharp upturn in aircraft weight of military shipments, despite

Snow loses its menace

at airports protected by

**WALTER
SNOW FIGHTERS**



● Airports equipped with Walter Snow Fighters face the coming winter with confidence. And well they might, for they have the fastest, most powerful, versatile equipment to handle ANY snow conditions—down a few inches to clearing thousands.

● Two 185 hp. Walter Snow Fighters in action (see text), effective team.

WALTER SNOW FIGHTERS keep the tremendous power, traction and speed to keep ahead of any storm, ensuring clear, usable runways while the snow is falling. The exclusive Walter 4 Point Positive Drive provides four powerful driving wheels, with positive traction in each, to furnish one-step pushing power and speed behind specially designed plow and wing equipment.

You clear more miles per hour, remove greater

volume of snow with Walter Snow Fighters. Runways are safe for landings, because the surface is clean and the snow is dispersed far to the side, avoiding high snow banks.

If you need snow equipment, ACT NOW! Have our representative call for detailed discussion. Or write for literature. Time is short, don't delay.

WALTER MOTOR TRUCK COMPANY

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● 220 hp. Walter Snow Fighter with plow. Vehicle on right and left wings, shown 45°: width in one pass, at 20-30 mph. This power to disperse deposit sideways.



volume of snow with Walter Snow Fighters. Runways are safe for landings, because the surface is clean and the snow is dispersed far to the side, avoiding high snow banks.

If you need snow equipment, ACT NOW! Have our representative call for detailed discussion. Or write for literature. Time is short, don't delay.

WALTER MOTOR TRUCK COMPANY

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USAF 'Unveils' Speed Designs

Celebrating its first anniversary, U. S. Air Force is releasing today engineering sketches which generally will be assumed to portray "plans of the future." But informed engineers signal the sketches are a different light.

They know that the designs, in the main, already have been discussed, although certain features have been adopted for existing planes or for planes that shortly will be flying.

The designs shown on this and the following two pages were conceived by growing in 1945. Advances in aeronautical research have introduced some features. That is why the Air Force now has declassified these sketches and released them for publication.

Even though the sketches are of planes "that will never be," they show exceedingly interesting and important design features. Some of these are as ahead today as America's future's engineering skill.

► **Reconquest Fw F40**—Concepts generated for an improved Lockheed P-80 (shown at top of this page) replaces tailboom wing root air intake with deck, leading NACA-developed flush intake. Another feature was dual tailpipe installation designed to reduce losses at tail.

Streamlined wing and tail tip plus improved landing gear were intended to raise maximum speed to near sonic velocity.

► **Early "Blackhawk"**—An early design of a fighter jet another fighter (page 26) introduced in the Curtiss XP 57

Blackhawk. The configuration featured stream-control, long gun turret under nose, replaced by fuel extension installation in fuselage nose. Design also reflects Air Force's extreme confidence for greater stream control.

Lengthened nose chord between nacelles and fuselage gave low aspect ratio effect with improved compressibility features. That added additional possible supersonic drag effect to subsonic wing panel.

► **Reaper Fighter**—Early promise of the subsonic swept wing led to a proposal for a single-seat fighter with wings mounted at the extreme tips (page 27). Very low weight of the swept engine which consists simply of a propeller shaped disk through which air passes and into which fuel is injected, permits wing tip installation without substantial increase in moment of inertia that accompanies wing tip fuel tanks or in-flight air tips.

Wing design includes under surface control with full span flaps to keep leading speed within reasonable limits. Ailerons are carried in long-chord wing roots.

There were two difficulties with this design. One is the comparatively low thrust of swept air intake speed, in direct contrast to its phenomenal output at supersonic speed. In addition, there is the necessity to launch the aircraft up to about 310 mph before engine commences. Flight tests on North American P-51 Mustang and Bell fighters equipped with wingtip swept proved

insufficiency of this type of design.

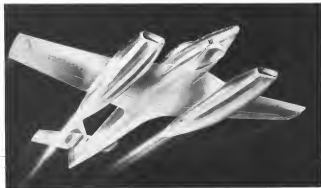
► **JATO Used**—Another redesign of the basic Lockheed P-80 configuration was a swept wing head inlet JATO units mounted in wing roots (page 26). Another proposed solution to air inlet problems was thin flush inlet location on entire side of nacelle.

Wing planform improvements reduced aspect ratio but is poorly shown in this condition. While combination rocket-jet power is feature of most new super-sonic Air Force fighters, the later modification effort head inlet to provide greatly increased thrust over the 2.5 sec. time of the powder rockets associated in this design.

► **Jet Bomber**—An early product of joint Air Force-NACA high-speed bomber project was the complex configuration (page 27) representing 1945 aerodynamic and tactical thinking—more rarely improved. (Compare this layout with Current X-46, Martin XB-45.) Dual turbojet engine nacelle installation has been pursued closely in later designs but evolved fuselage nose and tail configurations have been abandoned. Simultaneously, shock wave, popular during war, provided great lifting power but would have hindered speed of the craft.

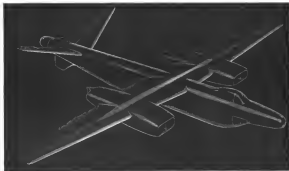
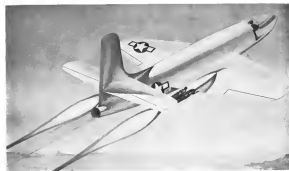
"V"-tail wings now increasing at this time but its advantages were largely lost in inclusion of control fin below fuselage. Aileron location in nose would have prevented radio installation and necessitated dismounting direct circuit on body.

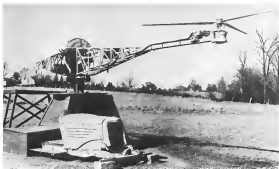
From These Designs Came Today's Planes



What Air Force Once Proposed:

Early "Blackhawk," upper left; swept fighter, above; one of JATO, lower left; and jet bomber, below, are four of the distinctive designs that figured in USAF planning when these sketches were first conceived at the conclusion of the war.





Test rig at Glenn L. Martin's Rotoring Division affords old Dodge engine (lower)

power to drive whirling arm, outboard end of which can attain speeds of over 100

mph., for rotor studies. Tip-mounted model rotor is powered by Continental engine

Whirling Test Stand Aids Rotor Studies

Powered arm, capable of speeds exceeding 100 mph., carries model blade system to simulate actual flight.

A novel whirling arm test rig for rotary wing investigations is being developed by Glenn L. Martin Co.'s Rotoring Division at North Wales, Pa.

In addition to equipment of original design, salvaged material utilized in construction of the rig and control house included a discarded 1936 Dodge automobile engine and chassis, four double window glass, and some old 8 x 8 timbers.

Though's budget requirements have been a primary consideration, these are offset somewhat since shown because they included the design plans of Division Manager Agnes E. Larson, a pioneer of rotary wing development and well-known earlier in the helicopter field.

► **Facility's Potential**—The new test rig promises to do for the engine manufacturer what the wind tunnel does for makers of conventional craft. It permits testing of scale model rotor assemblies under very nearly actual flight conditions.

It should be a big step in speeding up vital research on helicopter development under more correct operating conditions.

experiment in design and construction of hub and blade.

Heretofore, rotor testing has been done with full-sized craft or from an inventory house, both of which methods have many disadvantages.

► **Control House**—The test stand has a stationary base on which is mounted a carriage supporting its arm free to rock on a rotary bearing at its center. The arm is capable of 90° in each direction and at only 75 rpm the outboard end of the arm has a speed of 100 mph. On this outer end is a mounting plate for attaching any of several rotor systems for testing.

Fifty feet from the test stand is the control house, a 23 x 20 ft. frame building. The front wall embodies the 8 x 8 in. oak timbers, reinforced with steel lath. Four 8 x 14-in. windows with 1-in.-thick, bulletproof glass are located for observation at three levels, one of which is on the top path plane of the model rotor on the rig.

Within the house is a board with controls for cyclic and collective pitch, governor and damping for the test rig engine, and clutch and brake on the whirling arm. On the instrument panel

are tachometer indicators for the rotor power source, the rotor, and the whirling arm.

There is a position indicator for each of the cyclic and collective pitch control mechanisms. Calibration is in degrees of angle at radius from the static position. A voltmeter, now included for static rig indication for measuring thrust of the rotor, will be substituted for direct thrust reading.

The control house is also used as a shop, and has several small machines for general maintenance and light work such as fabrication of fittings and fixtures needed in setting up tests.

All instruments and remote controls are electrically operated, except for the Dodge run-down engine, clutch, shafts, and axle brake, which are remotely controlled hydraulically.

Wires and hydraulic lines are neatly underground in terra cotta pipe to the base of the test rig.

Electric power for the entire unit comes from a wire surplus gas and electric generating plant, which Larson bought when he found it would cost between \$600 and \$700 to bring in a similar power line.

► **Rig Details**—The test rig proper consists of four 6-in. 1-beam legs with a 6-ft. dia., 1-in. steel plate bolted on top. The legs are fastened to concrete pads

Handled with Kid Gloves

Microscopic instrument readings depend upon sensitive New Departure micro-instrument ball bearings. One down east, 500, and extremely clean. Bare hands are never permitted to touch them.

From the time a bearing is assembled until final packaging, it is handled only by kid-gloved hands. This precaution, plus filtered air, constant temperature, operations conducted in rapid steps and smooth, protects the quality of New Departure instrument bearings—your assurance of the ultimate in friction-free movement.



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Chump of arm end, showing model rotor, hub and controls. From back-to-front: rotor structure (left) carries three lower rotating hubs; the one adjacent and two cyclic

which are each 3 ft. into the ground.

A bearing housing, which supports the main vertical shaft of the whirling arm, is bolted to the 1-in. steel base plate. A shaft of 10 splines is attached around the bearing housing between arm carriage and base plate.

At a point of 180° along the whirling arm against two, constrained motion on the sensor rotor shaft, a heavy stainless steel spring is clamped rigidly in the carriage. Thus, its only motion is rotation with the carriage and deflection which is effected by connection to the whirling arm itself through the medium of a link.

This connecting link is attached to the outer end of the constrained link spring. The other end of the connecting link is attached to the whirling arm structure.

The thrust of the miniature rotor causes the arm to rock up, which deflects the link against the spring of the connecting link, and the deflection is read as thrust in the control house.

The Dodge rear end and side assembly is connected by a Morse flex (hub) flexible connection to a 185 Fly much rear side assembly, which is oriented vertically and connected to the main vertical drive shaft of the whirling arm by a Morse flexible chain link coupling.

► **Rotor Installation.**—Power source for the model rotor is a Continental A 90 (30 hp) engine located on the whirling arm 12 in. at its rotation.

The model rotor drive transmits power from the Continental engine through drive shafts in three sections.

One shaft section runs in a combination sleeve and free wheeling unit, an-

other from this mechanism to the third section which is, in turn, housed within a large outer tube portion of the arm. This latter section connects directly with right-angle gears in a box at the outer end of the arm.

Provisions have been made to reverse the direction of rotation of the powered arm as well as the model, which will enable testing over a very wide range of tip speed ratios. This should simulate a considerable speed range of helicopter flight conditions.

► **Stator's Versatility.**—The test stand is designed to accommodate one standard conventional rotor hub with 10 ft. dia blades.

It is intended that any type of rotor, longed, arc-wise or rigid rotor with two, three or four blades, including counter-rotating arrangements, can be tested for comparative results.

Primary interest is in the mechanical stability or vibration characteristics of the rotor, its hub, blades or controls.

Manuel Lavee says: "This type of test stand simulates all flight conditions, even in the worst of ways. The only discrepancy is the differential between the blades caused by the model rotation. It is expected to demonstrate the practicability of testing helicopter rotors by this means."

To obtain test results concerning durability and vibration characteristics, this method of testing is very accurate, because conditions are as similar to those in actual flight.

"Because of the flexibility of the type of test stand, stability, and performance data can be recorded easily and safely with variation factor in the smaller models."

Air power is peace power



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 <p>AV-16</p> <p>Electric motor valve, 1/4" to 1" for fuel, hydraulic fluid and lubricating oil. High flow at low pressure drop, explosion proof motor and valve stem.</p>	 <p>AV-15</p> <p>Double Electric Nephrole valve used for distribution of fuel flow in the "fuel in" and "afterburner" fuel lines, a turbine, piston or vane.</p>	 <p>AV-3</p> <p>Ram air AIT control valve normally open type. For control of engine fuel, oil, water, gasolene, etc.</p>
 <p>AV-7</p> <p>Steam valve type actuator—opening pressure up to 2000 P.S.I. for control of fuel pressure opened cylinder.</p>	 <p>AV-10</p> <p>Electric Nephrole valve for medium and high pressure applications. Controls by pneumatic, electric, hydraulic, etc. action, up to 2000 P.S.I. opening pressure.</p>	 <p>DW-11</p> <p>Temperature modulating control—providing fully automatic electric-hydraulic operation for control of engine coolant and lubricating oil.</p>
 <p>AV-1</p> <p>Normally closed type Electric Nephrole valve for control of all types of fuel, gasolene, oil, water, hydraulic fluid, etc.</p>	 <p>AV-2</p> <p>Electric Nephrole Double Four Way valve for control of fuel pressure opened cylinders.</p>	 <p>AV-4</p> <p>Electric Nephrole type valve with various ranges, fully protected at restricted pressure for all types of fuel, gasolene, oil, water, etc.</p>

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Fiberglass Plus Resin Lightens Chute Pack

A high-strength, lightweight parachute pack constructed of glass fibers and plastic resin is being fabricated for the Navy's Bureau of Ordnance by General Electric Mills, Inc.

The development, represented as embodying the latest techniques in molding reinforced, laminated plastic material, is based on extensive research by the Naval Ordnance Laboratory at Silver Spring, Md. (Ordnance-Glass Fiberglass Corp.) and the manufacturer.

Made in two forms—20-in. dia., 8 1/2-in. deep disk-like units and cone-like pack structure in container for the "blast-bail type" chute used in dropping and ejection seats.

The combination of Fiberglass mat and resin is designed to provide a solid material not affected by moisture or subjected by extreme heat or cold, and possessing impact strength greater than that of metals in phenol-formaldehyde resin impregnated materials and possessing weight of the pack is approximately 7 lb. without chute and insulation devices.

Two piece reinforced aluminum models are used with low pressure molding techniques.

Fiberglass mats of either 6 to 7 plys of 1-oz. per sq. ft. material or 3 plys of 2-oz. material—can placed in the mold and impregnated with polyester-type resin, and sufficient are cured under 50 to 60 psi pressure at 250 F. for 5 to 6 minutes.

Titanium's Potential Reported Encouraging

Researcher at Ramington Arms Co., Inc.—a affiliate of E. I. du Pont de Nemours & Co., Inc.—report promising possibilities for titanium in aircraft structures and engines.

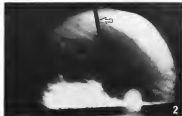
The metal is claimed to possess a unique combination of strength and light weight and to offer superior resistance to sea water corrosion.

Canadian equivalent to stainless steel in many respects, weight is as good as for 40 percent less.

Melting at a temperature substantially above that for steel, and 1980 F. above aluminum, titanium's strength in the range from 400 to 1800 F. is stated to be higher than aluminum in comparable alloys.

Ramington's research is directed towards methods of fabricating the metal and development of its alloying possibilities with other elements. Samples of unalloyed metal in narrow sheets and small rods are being produced and distributed for field evaluation as an engineering material.

Camera Catches Shock Waves In Flight



1 In high-speed flight studies, NACA uses the wing-chordwise approach in P-51 for photographing shock waves. Camera is mounted in side of trough, which channels airflow. Deflects light path for flash light pilot G. B. Cooper is to keep wave centered in the trough.

Shock waves (arrows) made by supersonic flow on P-51 in test flight at Mach 0.8. Light at bottom window from fuselage and opposite will be required to remedy this. The advantage of low-light shadowgraphs over standard work is that they permit study of shock wave formation and interaction with pressure distribution and control for better encounter of shock Mach 0.5.

Shock waves (arrows) made by supersonic flow on P-51 in test flight at Mach 0.8. Light at bottom window from fuselage and opposite will be required to remedy this. The advantage of low-light shadowgraphs over standard work is that they permit study of shock wave formation and interaction with pressure distribution and control for better encounter of shock Mach 0.5.

2 Photo of shock wave (arrows) made by supersonic flow on P-51 in test flight at Mach 0.8. Light at bottom window from fuselage and opposite will be required to remedy this. The advantage of low-light shadowgraphs over standard work is that they permit study of shock wave formation and interaction with pressure distribution and control for better encounter of shock Mach 0.5.

3 This is shadowgraph photo of shock wave, made with camera in P-51 light. Change of air density in wave is caught in trough and shows up darker area surrounding it. Wave is actually perpendicular to wing and picture reveals shadow of ridge. Supersonic flow shows line of pressure (shock) resulting from the shock wave. Normal pressure curve would go as high as 2, here even one end left.

4 This shadowgraph shows image of both trough and wing shock wave formation.

5 In another test phase, solid model of P-51 is mounted on ramp in P-51 wing to obtain supersonic speed flow while unit is flown at subsonic speed. Model is on movable track connected to recorder for lift, drag, pitch, and yaw measurements which are continuously photographed as light is given pressure data.

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Anti-lust abrasive, Blaster, for cleaning and polishing internal cylinders with a single turn hand. Black metal capable to afford particles with sharp points and many facets. Manufactured by Hunsco Standard Chemical Co., Akron, Ohio, material is reported to eliminate danger of working.



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For joining small metal parts, new fully automatic 75-amp brush-type spotwelder is offered by Wolden, Inc., Dept. K, 7152 McDonald Ave., Detroit 16, Mich. Unit, Model 753-PB, handles light non-ferrous metals of some or dissimilar alloy and thickness, as well as ferrous metals up to two thicknesses of 1/8-in. CRS at equivalent. In addition to air stream, regulator, pipe and indicator, standard equipment includes handle, foot-pedal, transformer by changing switch, single-acting air cylinder, magnetic contactor, and electronic timer. Regularly furnished for 220v., 60c., singlephase a-c operation, model is also available in 110 or 440v. Standard throat depth is 4 1/2 in. Unit weighs less than 2 1/2 lb.

acceleration on scheduled flights with loads exceeding 10,000 lb. Cleared in their Teleflex type chart paper used requires no other processing, is unaffected by light or time, will withstand 30-lb. submersion in sea water, and under temperature and humidity extremes will change 0.5% at least in linear dimensions. Present pilot model is ground for speeds at 0.2, 1, and 5 in./sec., giving recording time of 3 1/2 hr., 4 hr., and 8 min. respectively, with 200-ft roll single drive of about 8 in. per sec. can be provided, allowing for 500 hr. continuous recording. Weight of unit is 17 lb.



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Pressing specially compounded Vynolic electronic plastic striking from on polished and plated, drop-forged brass hammer handle by Vynolic Tool Co., 3801 E. 25th St., Cleveland 4, Ohio, has driving power of standard machined hammer of equal weight. Unit is recommended for wide variety of work on aluminum and other soft metals.



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For separating ferrous from non-ferrous materials and picking up light steel parts from floor, etc., solar magnet with quick release is constructed by Midland Mfg. Co., 2114 Monroe Ave., Detroit 7, Mich. Permanent magnet can be used in metal tube mounted between Neoprene wheels in frame pushed by handle.

Records Flight Data

Continuous flight recorder, in recording use in low winged gliders, is constructed by G. M. Chassey & Co., Pasadena, Calif. to meet CAA requirements for making pressure altitude and velocity

Soldering Unit

Electric soldering unit, intended for use on production lines where speed is required from unit with 1/4-in. tip diameter, is offered by Hunsco Electric Co., 127 W. Clay Ave., Roselle Park, N. J. Uses plug-in type, rated at 250w. with 1/4 in. dia. tip, firm has replaceable elements and type, and works off 110 or 120v. line current, a-c or d-c, any cycle.

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SALES & SERVICE



Bob Downey took seventh place in this LeVier plane.

Cosmic Wind Takes The Goodyear

Salmon pilots LeVier Associates plane to
new record for lightplane event.

By Alexander McFarley

Cleveland—A sleek bronze-colored all-metal nudger now piloted by Herman (Fritz) Salomon, San Nays, Calif., sprang into the lead of the second Goodyear Trophy race from the pole position at the race home start and held the lead in a closely contested 34 mile race against the best efforts of veteran champion Steve Wittman, Oklahoma, Wm. and Art Chester, Louisiana, Calif. They finished in that order.

The engine was the same Cosmic Wind type used in which Salomon had finished third in last year's Trophy race, but it had been subjected to considerable modifications.

► Come Race—Closest of the race was elapsed time of the first three contestants: Salomon, 8 min. 29.40 sec., 189.608 mph; Wittman, 8 min. 31.65 sec., 183.662 mph; Chester, 8 min. 33.67 sec., 168.201 mph.

Bill Branson, Oklahoma, winner of last year's Goodyear race and the Continental Trophy nudger race at Moses, shorter turned and held that position until Wittman passed him in the fourth lap. Chester at third position at take-off was off to a slow start and forced himself to fifth position before he pulled up speed.

► Wittman Thrust—At one point in the eighth lap Wittman threatened to catch Salomon, whose first-place wing California pulled wide on a turn

to pass a slower plane which he was loosing. Wittman went inside on the same turn Salomon returned but speed however and victoriously led again as Wittman lost position on the turn.

The race was over as a tribute to the sturdy little four-cylinder Continental engines of 158 cu in. displacement, rated normally at 35 hp, with which all the Goodyear nudgers were powered. Salomon had led his throttle wide open and "kept pushing it."

► Speeds Listed—Other speeds of the finishers were: Bill Branson, Pasadena, Calif., 185.106 mph; Phil Giegler, Glendale, Fla., 164.682 mph; Bob Downey, Whittier, Calif., 161.455 mph; and W. L. Lebern, Redville, N. C., 156.584 mph. David Long, Los Angeles, Pa., the sixth finisher, at pulled out in the ninth lap.

Fast these finishers in the modest four race for Goodyear contractors

chronized in earlier heats, were: Rudy Townsend, Tulsa, 142.447 mph; Will Lee, Fair, Warwick, N. Y., in the most valuable designed plane among the 1968 entries, 141.499 mph; and Al Rosenwasser, Nashville, Tenn., 135.520 mph.

► Race Analysis—Analysis of the second Goodyear competitors as organized with the 1947 nudger race at Cleveland, showed an appreciable increase in speeds, and a lessening of the margin between the principal contestants in the so-called professional race pilot class, and slower led by the small four-lap operation. Notable exception was local boss operator Steve Wittman.

Two nudger planes which finished out of the top eleven, but were interesting in possible design for adaptation to conventional lightplane use were an all-metal sub-sonic low wing plane built and flown by David Long, Lock Haven, and a true mid composite construction plane with plywood wing and tube fabric and metal covering fuselage, built by the University of Wichita in planning class.



Fritz Forster's Art Chester race.

Some of the Lightplane Entries

Featured below is B. E. Raymond, 1964, second, left, who took first place in the Tinnerman, second place in the Thayercup and fourth place in the Soho event. Two years of Goodwin entries have included Steve Wittman (right) who took second place in the Goodwin event, and the individual title of Bill Fick (bottom). Art Chester's Twin 'Fox' is a second sight.



Three place winner B. E. Raymond and his Tinnerman Trophy

AIR TRANSPORT

CAB Cautious on Feeder Future

Board refuses Florida Airways certificate renewal but sees place for such operations in airline network.

By Charles Adams

The nation's smallest feeder line lost its bid for a larger network and an extended lease on life this month as the Civil Aeronautics Board held the ground-work for decisions on whether to clip the wings of other short-haul carriers whose certificates expire next year.

First, mostly in the Board took stock of its feeder experiment was Florida Airways, which was certificated in March, 1964, and began service in January, 1967. CAB decided that the results achieved by Florida through May 31 of this year did not justify the small pay subsidies required to support the carrier.

► **Feeds Realism**—In reaching its conclusions, the Board reaffirmed its belief that feeders serve a useful purpose "in areas characterized by geographical isolation which impede serious transportation between communities of substantial size." CAB said it had been willing to test the efficacy of local air service in Florida with full recognition of the limited possibilities of success.

"As we approach the expiration date of our experiment (May 31, 1969) we are obliged to face the realities," the Board continued. "In our judgment, sound development of air transportation requires against continued experimental operation with public funds in the Florida area without more positive assurance that the service will be responsive to a genuine public need and that it can eventually be operated at a reasonable cost to the government."

► **Other Carriers Confronted**—CAB's latest opinion focused attention on the entire feederline picture, since on other active short-haul certificates are due to expire next year. Candidates of May 31 are Alle Lines and Challenge Airlines, which operate in the Rocky Mountain area, and on May 31, 1969, only three days after Florida's. A Board investigation is now pending to determine whether the Missouri and Challenge certificates should be extended another year.

Engage Air Lines, Boise, Idaho, has operating rights until next September, while Pioneer Air Lines, Dallas, Southwestern Airlines, San Francisco and West Coast Airlines, Seattle, have certificates

which are good until November, 1969. A number of other carriers either certificated or designated for certification as long as two years ago, but not yet started operations although their intrastate routes are running out.

Wagon Airways, Macon, Mass., certificated in the New England area in June, 1966, is still inactive although its authority expires in December, 1969.

► **Too Little Active**—When CAB verbally completed its feeder outlook last February, 39 carriers had been authorized to carry passengers, property and mail over more than 27,000 miles of short-haul routes. As of Sept. 1, only two new routes were active: Empire Florida, Manassas, Challenge, Aspen, Phoenix, Southwest and West Coast. They include Piedmont Airlines, Winston-Salem, N. C.; Western Central Airlines, Madison, Wis.; and Texas Texas Airways, Houston, Tex.

Indiana Airlines, Elkhart, N. Y., is slated to begin certificated operations this month, with DC-3 service from Titusville, N. J., to terminal-size airports in New York state to Buffalo and Niagara Falls, N. Y., via Middlebury, N. Y. Board Review Service between Bangor and Albany is scheduled for November.

Assessing Airways Phoenix, also has made preparations to inaugurate stage service, although these have been

several postponements. Besides Wagon, other feeders still inactive are Parts Air Lines, East St. Louis, Ill.; Southern Airways, Birmingham, Ala.; All American Airways, Wilmington, Del.; Central Airlines, Oklahoma City, Okla.; Iowa Airplane Co., Des Moines; and Pioneer Airways, Cincinnati, Ohio.

► **Non-Mat Success**—That of the other short-haul carriers whose temporary certificates do not authorize carriage of mail are still inactive. They are Yellow Cab Co., which has a helicopter base close in Cleveland, and Air Charming and Island Air, Fresno, which are authorized to operate in the New York metropolitan area.

Some of the inactive feederlines have a seemingly insurmountable task in raising sufficient capital to start service, and the Florida decision may prove to be the last straw. In these circumstances, CAB faces the problem of concealing short-haul franchises by default.

To date, most of the feeders are still operating far in the red, although there are notable exceptions where CAB has made special mail pay adjustments. Overall net loss during the first six months of 1968 for the nine feeders as reported financial results was \$493,273. Missouri had the largest loss, \$179,004, followed by Florida \$168,334 and West Coast \$118,992. Texas Texas and Pioneer reported the only net profits, \$167,576 and \$152,324, respectively.

► **Profits Still Possible**—But the feeders have a silver lining as well. Generally poor financial picture of Florida, which has lost heavily to date, will probably prove a 7 percent profit as its inaugural experiment for its initial period of operation when a final mail rate is set.

Only last month, CAB came to the rescue of Empire Air Lines with a substantial boost in mail rates for both part and full-rate periods for the period from Sept. 15, 1968, to Feb. 2, 1969. Empire was allowed \$1,326,713, or 68.16 cents a plane mile, as a final mail rate.

This is almost \$400,000 more than the carrier received under its temporary rate and will trim the company's losses for its last 17 months into a 7 percent profit on its inaugural experiment. Beginning in February, 1969, Empire has been offered a sliding scale mail rate which varies inversely with the carrier's passenger load factor.

► **Highest Return Rates**—Maximum rate of 65 cents a plane mile is applicable when Empire's passenger load factor is below 31 percent. For each one percent increase in passenger load factor above 31 percent, the mail rate will decrease one-fifth of a cent.

Empire's new rate was the highest yet offered a feeder and reflects the Board's determination to provide ade-

Feeder Operations

(First 10-M 1968)

Carrier	Net Profit	Pass Carried
Challenge	\$199,296	8,832
Empire	168,334	9,004
Florida	(168,334)	4,441
Missouri	(179,004)	11,666
Piedmont	(66,055)	9,418
Pioneer	152,324	39,715
Southwest	(113,658)	38,364
Texas Texas	167,576	6,251
West Coast	(118,992)	29,683
Wis Central	(64,816)	2,967
Totals	\$149,277	163,113

Passengers include deficit.

quasi support for short-haul carriers during the life of their temporary certificates. For the period beginning May 1, 1948, CAB indicated that airlines could realize a profit on short-haul routes at little more than a 26 percent load factor.

The sliding scale formula is similar to one applied to Powers and South-west. Under these terms, Southwest has been showing a profit, and Northwest has been very close to being at the black side of the ledger.

► **Traffic Law**—While CAB must ensure that airlines to prevent complete dissipation of its capital, the Board noted with disappointment that new mail traffic on the airlines has been very slow in developing. During August's first 17 months of service, the Board indicated operating only about 15 percent of total operating costs. Such figures still have a direct bearing on whether CAB is aware of Florida's certificate before it expires in September.

The Board's Bureau of Economic Regulation is now gathering traffic and cost data on all airlines whose certificates run out next year. Based on the results of these studies, the Board plans to institute proceedings through due process actions to determine whether public convenience and necessity require retransmission, extension, modification or termination of the temporary route licenses.

► **Post Office Position**—Looking impatiently as the hearings in CAB intensify, the post office will be the most involved Congress and federal agency Post Office Department. The Post Office during the past few months has taken a vigorous stand against encroachment of the federal territory. Civilian contractors in civilian aircraft at the high cost of scheduling scheduled operations.

Meanwhile, indicating that its latest decision placed Florida Airways in an "unfavorable position," CAB emphasized that it did not mean to imply that management was responsible for the apparent failure of the experiment. The Board conceded that Florida had made some progress in relieving costs and increasing revenues.

Florida's present 470-mile network, a meshwork at Orlando and Jacksonville, at Tallahassee and Jacksonville. All service that is not scheduled in a regular, continuous, or regular manner, the carrier had asked CAB to expand its routes to 1770 miles through extensions to Miami, Pensacola, Tampa, Ft. Myers and other points. It also requested a firm extension of its temporary three-year certificate.

► **Expansion Urged**—Last spring a CAB examiner recommended enlargement of Florida's system through addition of short-haul routes to links extending from Orlando to Miami and other

points (AVIATION WEEK, May 17). He noted that the present system during 1947 yielded Florida passenger revenues equal to less than 10 percent of its operating expenses.

In stamping the Florida operation a failure, CAB said that the government would be faced to grant the carrier, over pay suggesting around \$777,000, or 69 cents a plane mile, between May 10, 1947, and May 31, 1948, if the company is to show a reasonable profit. During that period, Florida flew 12,351 passengers, each of whom paid an average \$7.13 from a 133-mile flight. In contrast, the government will pay at least \$19.51 per passenger mile in the form of subsidy.

Eastern Air Lines, which had asked CAB to suspend the Florida certificate, noted that Florida's break-even and pay need last year was equal to more than \$111 for each mail mile of service rendered and \$68.69 for each passenger mile. Eastern said that its own mail pay during the same period was 447 cents for each mail mile of service and 89 cents for each passenger mile.

► **New Equipment**—Fleet—Using eight-passenger Beech D19C equipment, Florida granted a reduction of 12 passengers per plane mile during its first 17 months of service. With its system expanded to 1770 miles and with acquisition of new 20-passenger Beech Model 34A feeders, the company said it would carry 37.6 passengers per mile.

CAB challenged the enhanced payload over the expanded route. It stated that with the present system, prospects of generating more than five passengers per mile appeared unfavorable, and a continuing need for subsidies in excess of 55 cents a plane mile appeared inevitable.

New Organization For Irregular Lines

Irregular airlines operating large-type transport planes have set up a new organization in Washington to promote and protect their interests in and around the capital city.

President of the group—named the Independent Air Carriers Association—is R. H. Hart, president of Viking Air Lines, non-scheduled intrastate operator based at Berkeley, Calif. Hart and IACA will act as Congress to revise the Civil Aeronautics Board's powers over non-scheduled lines.

► **Threat Sues**—CAB's recently instituted investigation of non-scheduled air services, especially possible competition with scheduled airlines, has led to a suit in U.S. District Court. The suit charged that the airlines were not being treated fairly.

such threats must be met by noted airlines.

On Aug. 4, CAB froze at 100 the number of passengers authorized to use large-type turbo-propeller-powered Lockheed Lodestar air or large-intrastate non-scheduled air transportation. At the same time, the Board initiated a probe to determine how to prevent against irregular operators based in violation of the Civil Aeronautics Act (AVIATION WEEK, Aug. 16).

► **Air Lines**—The Independent Air Carriers Association plans to help its members in their dealings with CAB, as filing briefs, obtaining better insurance terms, and in fostering public relations. Approximately 26 irregular operators have joined IACA and CAB to represent the airlines, which have received from a number of other non-scheduled carriers.

Benjamin Hart, president of IACA and Delta Airlines, said that the organization of domestic air lines is not the same as the airlines of the western states. R. Paul Wenzel, president of National Air Transport Service, Miami Springs, Fla., president of the Eastern Division, Western Southern, Greater City Airport, Philadelphia, secretary, and Richard Oliver, New England Air Express, Port Chester, N.Y., secretary, Headquarters of the Association are in the Department of Civil Aeronautics, 336 Constitution Ave., N.W., Washington.

Ground Finally Broken For L.A. FIDO System

After extended delays in letting contracts and obtaining special equipment, installation of Los Angeles Airport FIDO system is now underway at the California airport.

Heavy soil was being on the part of airport officials that it will be completed in time for this winter. The system will provide a "blast" on both sides of the main runway for a distance of 4000 ft., and 2000 ft. of the approach zone.

More Analyzers For FAA From Spectry Gyroscope

Pen Aviation Analyzers has ordered 10 new engine analyzers from the Spectry Gyroscopic Corp. for installation on its Texas Alamo fleet of Lockheed C-47s.

The latest purchase, totaling \$65,000, brings the company's investment in the new trouble-shooting device to \$131,000. First order in 18 August the analyzers (AVIATION WEEK, July 18), FAA previously ordered 10 from Spectry Corp. for its fleet of Douglas C-47s, which are scheduled to be delivered later this year.

Airlines' 1948 Prospects Dim

Disappointing summer blazes carriers' hopes of cutting losses. Higher mail pay may be only way out.

Although summer blazes hopes are still dim, the airlines' hopes of cutting losses are still dim. The airlines' hopes of cutting losses are still dim.

Early last spring, hopes were high that the normal summer traffic upturn would enable the carriers to break away a substantial part of their heavy first-quarter losses. Instead, a number of airlines have had a very bad start to the season during the usually lull period between Memorial Day and Labor Day.

Intensification of higher fares on the major domestic routes and intensification of domestic air travel during the summer has helped airlines during the summer of 1948. But there is a growing belief that only sharp increases in mail pay will save much of the airlines from insupportable deficits at year end.

► **First-Half Losses**—The 16 domestic airlines booked the first half of 1948 with net losses aggregating well over \$15,000,000, compared with a \$14,700,000 net deficit in the same period last year.

Operating losses declined from \$15,000,000 in first half 1947 to \$11,800,000 in first half 1948.

American Airlines shouldered the largest net loss during the first six months of the year—\$4,365,145 against \$2,012,900 in the same 1947 period. Eastern Air Lines and Chicago & Southern Air Lines had the only first-half profits among the 16 domestic trunk carriers, reporting nets of \$1,966,368 and \$266,491, respectively. But the carriers were up sharply over the first six months of 1947, while Chicago & Southern's profit contrasted with a heavy deficit last year.

Among the carriers showing losses sharply higher in 1948 than in 1947 are Delta, National, Northwest and Western.

Recurring considerable reduced losses were reported by Capital, Colonial, Continental and TWA.

► **Deficit Transfers**—Colonial's net deficit was charged from \$679,112 in first half of 1947 to \$1,512,544 this year. The deficit was \$90,000 in the first half of 1947, and President Signature first deficit profit also will be down for August. But it said that Colonial's operating losses for 1948, 1947 and 1946 should be "substantially liquidated" when CAB establishes permanent rates for this year.

Other carriers reporting unprofitable

net profits during July were Chicago & Southern, \$55,653, Capital, \$11,187 (on a net factor of only 48.72 percent), and Mid-Continent, \$7556. But the large domestic trunklines did not lose as well as anticipated maintenance business.

American's load factor dropped from 51.7 percent in June to less than 50 percent in July. Break-even point for AA during July was about 50.1 percent. United's domestic load factor fell to 77.7 percent in June to 55.5 in July, and Northwest's from 66.9 to 56.5 in the same period.

► **International Results**—McDonald, the only U.S. carrier also operating in the red on their overseas and international routes. During the first half of 1948, their net deficit were reported as \$222,571 on its Mexico City route, Colombia \$39,691 on its Bermuda operations, Chicago & Southern \$799 on its Caribbean routes, Eastern \$1268 on its Puerto Rican route, and United Airlines \$48,306 on its European Atlantic service.

TWA reported the largest net loss

First-Half Earnings

(Domestic Operations Only)

Carrier	Net Profit	Per Profit
American	\$4,365,145	\$1,212,477
Capital	\$242,226	(270,948)
Capital	(4,365,145)	(1,212,477)
C & S	266,491	(3,000,000)
Colonial	(1,512,544)	(679,112)
Continental	(3,751)	(100,000)
Delta	(2,012,900)	(3,000,000)
Eastern	1,966,368	1,512,477
Eastern	(1,512,477)	(1,512,477)
Mid-Cont.	(7,556)	(10,000)
NCA	(1,071,381)	76,934
NCA	(1,071,381)	(1,071,381)
NWA	(1,071,381)	(1,071,381)
United	(1,071,381)	(1,071,381)
United	(1,071,381)	(1,071,381)
Western	(1,071,381)	(1,071,381)
Total	\$15,000,000	\$15,000,000

(Figures include net profit after taxes and operating loss for first half 1948)

among U.S. trans-Atlantic carriers during the first half of this year—\$2,077,000. American Overseas Airlines had a \$975,000 net deficit in the same period, while Pan American Airways showed an operating loss of around \$1,870,000 on its Atlantic business. PAA also had deficits on its Latin American and Alaskan operations.



BILLION-DOLLAR SAFETY AWARD

American Airlines was making up most of its safety record when C. R. Smith, head chairman, accepted the National Safety Council's billion-dollar award in 1947 in a recent ceremony in New York. The Safety Council's plaque honored American's achievement in flying 1,562,400,000 scheduled passenger miles between Dec. 28, 1946, and the end of last year without liability to passengers or

Pan American Sets Fare Precedent

Carrier challenges denials with tourist class service to Puerto Rico; domestic lines watch results.

Pan American Airways, which recently led the way in establishing low cost roundtrip excursion fares over the north Atlantic during the coming winter season, has become the first certified operator to offer special "tourist class" service to respondents with regularly provided first-class transportation.

The new sharply slashed rates, to be effective on the New York-Puerto Rico run this month, will be the first in a direct challenge to the costly non-subsidized carriers which have captured most of the business on the route. An Air Transport Association study shows that the regular roundtrip schedule of 40 percent of the passengers between New York and Miami and San Juan falls this year.

Heavy Domestic-Aeroline, the non-subsidized carrier, shows its total traffic to have been higher than 40 percent, more complete figures are irregularly available. At any rate, heavy discounts from PAA's direct New York-San Juan route and from Eastern Air Lines' New York-Miami-San Juan link have been a magnet for the past two years.

Pan American's new lowest fares to Puerto Rico will be made daily by its DC-4's selling \$5 passengers by instead of the conventional \$12. Meals and other "extras" will be eliminated from the flight.

Fares will be \$75 one way, or about 44 percent a mile, compared with the current \$135 tariff. PAA's air to tourist class rates for the 101-mile New York to San Juan run are the lowest long-distance fares on any scheduled domestic route at international airports in the world. Present first class services conducted by Pan American will continue to remain unchanged.

Other Caribbean Intercontinental-Willis G. Lipson, PAA vice president for traffic and sales, emphasized that there is no connection between the tourist class operation and recent CAB industry disapproval of "Whispering Willies" in the name of a fare war on domestic flights. But there is no doubt that domestic transcontinental carriers, bent on second-class "live cash" competition from non-subsidized operators, will be watching the movement.

Should PAA's DC-4 tourist flights to Puerto Rico be successful, the carrier might place intra-continental Coastliners on the run. There is also some speculation that Pan American will consider a situation of cut-rate flights on its Seattle-Alaska link, where irregular operators

have been actively active.

Non-subsidized non-subsidized carriers flying between New York, Miami and San Juan will still have the lowest rates as the new PAA's new traffic become effective. World Airways, which operates 60 passengers Boeing 747 flying boats, and Coast Lines Airlines offer \$65 one-way tickets.

Perimeter Air Transport and American Air Transport quote \$60 for south-bound "heavy class" flights (including meals) and \$72.99 for north-bound air class transportation. They both have tariffs of \$18 southbound and \$40 northbound for back-to-back roundtrips.

Modern Air Transport has filed even lower one-way rates with CAB—\$40 one-way class southbound and \$72.99 northbound, \$70 budget class southbound and \$60 northbound. West Coast Airlines Air Cargo Lines quotes \$75 one-way on its DC-4's and \$150 roundtrip, the same as Pan American extends to charge for its new tourist service. On two engine craft, Trans Caribbean offers \$75 one-way and \$110 roundtrip.

Fast Service—Pan American's stop-stop DC-4 tourist service to San Juan



LEFT BEHIND

United Air Lines' last and final departure at Denver still has a rubbing left even despite the carrier's belief that it is unattractive to domestic. About one sixth of one percent of PAA's passengers now have some of this passengers in mind, compared to nearly one-half of one percent a few years ago. About 180 passengers are returned to their owners last year, but there are not 1200 more passengers shown in the photos on the last and final departure's shelves.

be considerably later than that offered by most of its non-subsidized competitors, which usually fly DC-3's from New York to Puerto Rico via Miami. Trans Caribbean apparently will be most actively affected by PAA's move.

Reason that a number of the non-subsidized, often lower southbound than northbound on the Puerto Rico run is that the traffic flow is unbalanced. Last year, 101,000 passengers were southbound and only 50,000 passengers northbound (January Warrent, Aug. 10).

Bulk of the northbound traffic last year consisted of Puerto Ricans enquiring to their long-growing entry in New York City, while the southbound flow included many Puerto Ricans returning to their contemplated West Indian island either personally or to visit friends and relatives. Comparatively few Puerto Ricans also could regular first class transportation as provided by other carriers.

Florida-Alleged—Puerto Rican airlines and CAB have been disturbed by the alleged that the southbound flow of the New York-San Juan schedule during the past few years. Cases have been cited against the irregular operation left to relieve fine published tariffs, charge different rates for exactly the same type accommodations on the same plane, and maintain their equipment irregularly.

But there can be no doubt about the service and energy. The Puerto Rican Government is now considering establishment of a license system to control the great number of ticket agencies, many of whom operate with the non-subsidized. Agents would be prohibited from such illegal practices as offering payment, clothes or other gifts to pilots; Puerto Ricans in order to promote travel to New York at other places as the U. S. Government in ticket prices would also be reduced.

CAB is slated to hold a hearing in December on the establishment of new service between the U. S. and Puerto Rico. At least one non-subsidized passenger carrier is applying as the one, while Pan American and Eastern are determined to protect or expand their existing franchises.

C & S Pay Rake

Chicago & Southern Air Lines and the Air Carrier Communication Organization, with the Chicago & Southern Air Lines (Association) have agreed on a new contract giving \$25 per passenger to telephone, radio-telephone, radioteletype and land radio operation. New line included for radio operation is \$250 monthly. Annual increase for all C&S communication equipment was 12.75 percent.

Press Chilly to Fare Increase

Against increases, might be a month which could be disastrous.

"Only the airlines could make sense out of this," said the airline industry, but also only the airlines could be expected to make sense out of it. "We are not in a position to be able to do it," said the airline industry, but also only the airlines could be expected to make sense out of it. "We are not in a position to be able to do it," said the airline industry, but also only the airlines could be expected to make sense out of it.

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"They prefer the speed of the no-thing."

"They want the speed of the no-thing."

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"They want the speed of the no-thing."

"They want the speed of the no-thing."

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Trippe and Smith Show The Way

Two airline top executives have just given domestic new evidence to show why they are generally considered the leaders in this industry. Although C. B. Smith has gone along with the other domestic airlines in raising fares on his DC-8's, DC-9's, and Canams to the old DC-8 level, he has given pilots notice that he has an intention of the line of keeping DC-8's loads unless compelled to do so by CAB. His dash against with every other domestic carrier among lines and Continental, all having jumped their fares within 30 percent.

John Trippe, president of Trans America Airways, has struck out boldly at higher fares first. First, FAA announced new trans-Atlantic increases from effective Oct. 1 cutting rates to one and a third times the present rate. American, Eastern, TWA, and most of the large lines have quickly followed.

For American this started the industry, announcing it would start a new fully reduced fare local service between New York and Puerto Rico in covered territories DC-8's of 64 seats instead of 52, at 4.6 cents a mile, without increasing speed or safety. These subsidies will be operated in addition to the local regular fare from Chicago service between the two points.

Blame for high executive decisions on. They reflect some of the reasons that industry once had before most of its larger companies would follow to compliance. The fare transportation is a commodity if you can fill the seats. But to exploit the possibility of raising thousands of new fares, as thousands of passengers from the airlines, over to each type aircraft—even if only representative services are launched—to it is unorthodox blindness on the part of those great men who are living on the backs of thousands of dollars during what should be the peak of the travel season. What can reader bring?

"We have one and a half percent increase, such as one of domestic flights," Smith warned CAB in his letter which gave notice that American would not require any higher fares to its fleet. The company's board chairman said, "Each increasing price increase brings us closer to that state. Any increase in price at this time will be the first within a year. This increase, then, has great probability does any proceeding it is long or nearly into the area of diminishing returns."

"If we are not satisfied with this, and if customer resistance is sufficient to diminish business volume and income, one price raise is proved at least . . . look at the graph which depicts the total purchase of this class transportation, its decline has been steady and continuing, the impact of the fairly budget is punishing those people to travel. The age is still there but a large part of the budget ability to pay for the travel market."

Some years ago, in determining the level at which air transportation could be sold without undue customer resistance, the carriers could sell reasonably into as long as the price of their product would compare favorably with that charged for first class rail transportation.

There is no rule now that today, for air transportation, through excessive price increases, has still needed as one which provides disadvantage to the potential traveler, and the price of first class air transportation today is diminishing the total of first class fares. The Wall Street Journal last week saw study one column, devoted to an analysis of the travel market, ending with the conclusion that the present high fares on the rail and air lines are operating to require people to travel by other and less expensive methods of transportation. All of our recent experience around this viewpoint. We do not require further here

account to price ourselves out of the potential range of a substantial group of people, clearly at present prices we have placed our product beyond this ability to purchase.

Some would give comfort for the present level of fares, and even ask to justify a further price increase, by favorable comparison of the cost of our product today with the price of that product 10 years ago. Certainly that comparison has largest place in any analysis of the situation, but historical price comparison is not the governing factor, perhaps not even the principal factor.

"No one should underestimate a sales and pricing program which has at least succeeded to find the depth and worth of his potential market. Certainly he should know where he will seek potential customers. Ten years ago air transportation was in the business of selling a product, expensive to produce, at a high price, in a limited, high income group. Today we are in the business of selling air transportation to a much broader market, composed principally of people in the middle and lower income brackets. That is not surprising. . . .

"It would be foolish to reach any other than the conclusion that we have simply entered the age of diminishing returns for our ten major manufacturers, the last factors show that generally, and individual costs show it specifically. . . . I doubt that any sensible person could conclude that there should be no additional fare changes, now or later. A position so dogmatic would reveal nothing except ignorance. . . . If additional increases, prices will go up—oil prices, including air transportation. . . . but it seems to me that our position is to evaluate the present and reasonably firm flexible force of inflation in the U.S. and in price our product, based on that judgment, as such time as will properly bring to greatest income and provide best opportunity for possible open.

"Therefore, we are opposed to this line to any increase in the first class fare. We believe that in the present debate state of the travel market it would only result in a decrease in income, a result exactly opposite to that desired by the Board."

"On would trip discount it is and has been the view of American that reasonable discounts represent an unfunded option of selling, one originally conceived by the rail lines and adopted by the airlines suddenly without serious consideration of the public. . . . If we sell a one year ticket for \$200 and permit a discount of 10 percent for the second trip, the cost of the journey is \$180. If we are willing to sell two tickets to the same person for \$180, we are on level of selling one to the same person for \$90, but that person is to otherwise a lower fare basis. We would prefer advertising that we will sell a ticket for \$90 than to advertise that we will sell it for \$180, with small type underneath explaining that a discount is available. We are in favor of the airline's position on these points. We are in favor of sales and advertising advantage."

Aug. 9, on the page we depicted the air transport industry's lack of vision as higher fares, its lack of initiative in experimenting with second class air coach service, its failure to cut costs as substantially as necessary, and its desperate philosophy of leaving going to the government for some mail pay to continue its inefficient. Martin Trippe and Smith by their management refuse have some convincing evidence of a serious lack of leadership. The film is caustic. An incredible moment to see air transportation is starting. There is some cause in the business after all.

ROBERT H. WOOD



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